

# THE WESTERN AUSTRALIAN NATURALIST

Vol. 17

October 7, 1988

No. 5

## SEABIRDS AND SHOREBIRDS AT NINGALOO IN WINTER, WITH COMMENTS ON HUTTON'S SHEARWATER

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### ABSTRACT

Seventeen species of seabird and 14 species of shorebird were recorded offshore and around Winderabandi Point, in the proposed Ningaloo Marine Park, at the end of winter between 1978-87. Amalgamating our records with others shows that at least 30 seabird and 25 shorebird species occur in the area. Migration past Ningaloo by Hutton's and Wedge-tailed Shearwaters is discussed and counts are presented for Hutton's Shearwater.

### INTRODUCTION

The coastline of the Ningaloo area, from just north of Cape Farquhar to North West Cape (Fig. 1), has been proposed as a Marine Park (May *et al.* 1983) and will soon be proclaimed. Thus, it seems appropriate to present information we have collected since 1978 on the seabirds and shorebirds occurring there at the end of winter and to integrate our information with the early records of Carter (1904), more recent records of Johnstone (1980) and Keeling & Parker (1986), and those collected by rangers in Cape Range National Park (Dept of Conservation & Land Management 1985). Cape Range National Park will be incorporated in the new Marine Park.

### DESCRIPTION OF AREA AND METHODS

Observations of shorebirds were made just south of the boundary of Cape Range National Park near Winderabandi Point (Fig. 1). Seabirds were observed in the same area and 3-5 km offshore. Most of the shore consists of a narrow sandy beach, behind which are low sand dunes. However, to the north the shore consists of a rocky shelf, which drops to a reef that is exposed at low tide. At Winderabandi Point the beach runs out to a sandy spit that is moderately extensive at low tide.

Two parallel coral reefs, about 100 m apart, extend north-south along the section of coast around Winderabandi Point 2-3 km offshore. Waves usually break on the outer reef but rarely do so on

the inner one, which is used frequently by birds when exposed at low tide. The water outside the reef is 20-30 m deep and rapidly becomes deeper; the edge of the continental shelf is only about 8 km from the shore.

Seabird observations were made during fishing trips between 31 July — 8 August 1978, 30 July — 9 August 1979, 10-21 August 1980, 2-13 August 1981, 18-30 July 1982, 4-17 August 1984, 4-16 August 1985, 3-15 August 1986 and 25 August-4 September 1987. About 5 hr per day in the first two years, 4 hr between 1980-86 and 3 hr in 1987 were spent observing seabirds. Shorebirds were only recorded systematically in 1986.

#### ANNOTATED LIST

Yellow-nosed Albatross (*Diomedea chlororhynchos*) — Low numbers, singly or in groups of up to five, offshore most years. Most were juvenile.

Southern Giant Petrel (*Macronectes giganteus*) — Juveniles offshore in 1978 and 1986.

Cape Petrel (*Daption capense*) — Occasional single birds offshore most years.

Wedge-tailed Shearwater (*Puffinus pacificus*) — Large numbers offshore each year generally flying south. On 8 August 1986 over 1000 were counted flying south in a 2 hr period. They were seen only outside the coastal reefs (i.e. > 3 km offshore) and few were seen within 1 km of the reef. Occasionally all birds flew northwards for short periods, especially early in the morning, before resuming their southwards flight. Flocks frequently fed on the surface in association with bonito-like fish (Halse 1981) and occasionally large rafts sat on the water. In 1982, when observations began on 18 July, no birds were seen until 25 July. In 1987, large numbers (100s) were seen some days in late August and early September.

Hutton's Shearwater (*Puffinus huttoni*) — Large numbers were seen ca 5 km offshore every year (Table 1) in flocks of 1-50; most flocks contained 5-25 birds. Compared with the Wedge-tailed Shearwater, numbers of Hutton's Shearwater present were very variable during the day and between days (Table 1). They were rarely seen feeding (Halse 1981) although occasionally a few joined feeding flocks of Wedge-tailed Shearwaters and on 8 August 1985 a flock of several hundred fed in association with medium-sized (ca 50 cm) fish. Between 0630H and 0730H on 12 August 1985 they were seen flying both north and south and feeding before resuming their southwards flight. Some northwards flying was also observed in 1987 (Table 1). Although birds were seen from mid-July until early September, the largest flights occurred between the end of July and mid-August. They were seen during all daylight hours in large numbers. We did not go out at night.

Wilson's Storm-Petrel (*Oceanites oceanicus*) — Low numbers offshore each year. Mostly single but occurred in groups of up to three.

Australasian Gannet (*Morus serrator*) — Single birds just outside coastal reefs on 25 and 26 July 1982, 10 August 1985 and 14 August 1986.

Brown Booby (*Sula leucogaster*) — One offshore on 5 May 1978

- (Halse 1979), another flying south just outside coastal reefs on 4 August 1986.
- Pied Cormorant (*Phalacrocorax varius*) — Low numbers each year on sandy spit and in the lagoon inside the coastal reefs.
- Least Frigatebird (*Fregata ariel*) — A single adult male offshore on 10 August 1984.
- Eastern Reef Egret (*Egretta sacra*) — Single grey-phase birds seen some years on inner coastal reef at low tide, both colour phases seen at Yardie Creek on 26 August 1987.
- Pied Oystercatcher (*Haematopus longirostris*) — One on sandy beach on 5 August, another on 7 August 1986.
- Sooty Oystercatcher (*Haematopus fuliginosus*) — One or two seen some years on rocky shore.
- Grey Plover (*Pluvialis squatarola*) — Group of about 10 seen regularly on sandy spit in 1986.
- Large Sand Plover (*Charadrius leschenaultii*) — One on sandy spit on 7 August 1986.
- Red-capped Plover (*Charadrius ruficapillus*) — Low numbers on sandy spit in 1986 and on beach each year.
- Ruddy Turnstone (*Arenaria interpres*) — Up to six seen regularly on sandy spit in 1986.
- Grey-tailed Tattler (*Tringa brevipes*) — Group of approximately 10 seen regularly on sandy spit in 1986.
- Common Sandpiper (*Tringa hypoleucos*) — Two on rocky shore on 7 August 1986.
- Whimbrel (*Numenius phaeopus*) — One on rocky shore on 7 August 1986.
- Black-tailed Godwit (*Limosa limosa*) — One in breeding plumage south of Winderabandi Point on 2 September 1987.
- Bar-tailed Godwit (*Limosa lapponica*) — One on sandy spit on 7 August 1986, four there on 4 September 1987.
- Red-necked Stint (*Calidris ruficollis*) — About 20 seen regularly on sandy spit in 1986.
- Sanderling (*Calidris alba*) — About 20 seen regularly on sandy spit in 1986.
- Silver Gull (*Larus novaehollandiae*) — Observed on beach near campsite every year. Numbers appeared to increase during our stay to maximum of about 20. Occasionally seen elsewhere on beach or in lagoon.
- Caspian Tern (*Hydroprogne caspia*) — A few seen regularly each year on sandy spit, on coastal reefs at low tide, in lagoon and beyond the reefs. They were in groups of up to four on spit but always alone beyond the reefs.
- Bridled Tern (*Sterna anaethetus*) — One offshore on 25 August 1987.
- Fairy Tern (*Sterna nereis*) — Groups of up to 30 were seen regularly each year on sandy spit and in lagoon, larger numbers were seen offshore where they frequently fed in association with feeding shoals of medium-sized fish, which were feeding on smaller fish. On 4 September 1987 group of 50 seen, all of which were immature.
- Crested Tern (*Sterna bergii*) — In 1986-87 seen regularly in flocks of up to 10 on sandy spit, on coastal reefs at low tide, and offshore. Prior to 1986 we did not distinguish this from the following species.



Lesser Crested Tern (*Sterna bengalensis*) — In 1986-87 flocks of up to 20 seen regularly on sandy spit, in lagoon and offshore.  
Noddy (*Anous* sp.) — Five birds offshore feeding at surface in association with Fairy Terns in 1985. Four birds seen on 27 August 1987 when both species of shearwater were feeding. They were probably Common Noddies (*A. stolidus*).

## DISCUSSION

We recorded 17 seabird and 14 shorebird species offshore and about Winderabandi Point during our observations at the end of winter. Combining our data and that of Carter (1904), Johnstone (1980) and Dept of Conservation and Land Management (1985), a total of 30 seabird and 25 shorebird species have been seen in the Ningaloo area (see Annotated List and Appendix). Offshore the dominant seabirds were Wedge-tailed and Hutton's Shearwaters, although Fairy Terns and probably both species of "crested" tern were seen almost daily, Wilson's Storm-Petrels were seen several times each year, and Yellow-nosed Albatrosses and Cape Petrels were seen on several occasions most years. Along the coast Silver Gulls, Caspian, Fairy, Crested and Lesser Crested Terns and Pied Cormorants were seen daily or almost so. Because we kept records of shorebirds (with a few exceptions) only in 1986, it is difficult to comment on the status of most species but Red-capped Plovers occur regularly and so probably do Red-necked Stints, Sanderlings and Ruddy Turnstones (Carter 1904).

Our records are restricted to late winter and the composition of the avifauna will be somewhat different at other times of the year because of the absence of passage migrants and winter visitors from Antarctica. At the end of winter the seabird assemblage is dominated by two passage migrants: Hutton's and the Wedge-tailed Shearwater.

Evidence collected by Reed & McKean (1982), Finch (1983) and Stokes & Corben (1985) supports Warham's (1981) contention that Hutton's Shearwaters circumnavigate Australia on their annual migration from the New Zealand breeding grounds (Halse 1981). They fly up the eastern coast of Australia in April-May and around the north coast to the presumed wintering area off north-western Australia (Warham 1981). Most return along the western and southern coasts in August-September, although quite a lot of birds (probably all non-breeders) pass the south-western coast between October and January (P.J. Curry, pers. comm).

It is still unproven that the bulk of the Hutton's Shearwater population migrates, rather than just the non-breeding segment of the population (Warham 1981). However, the counts made at Ningaloo (Table 1) and off the coast of New Guinea (Finch 1983) are large enough to suggest that the whole population migrates. About 3,000 birds were seen each year (except 1987) at Ningaloo over a two-week period with an average of 4 hr observation per day. Assuming the birds fly past at a constant average rate during the night and day, this means about 18,000 birds flew past within counting distance during the fortnight. In fact, some birds probably passed too far out to sea to be visible. If it is assumed that this was the case for 30% of birds, then about 27,000 birds migrated through Ningaloo during the

Table 1. Number of Hutton's Shearwaters seen each year at Ningaloo.

Date	Actual Counts	Comments	Estimated Numbers Seen
31 July-8 August 1978	—	100s seen most days	> 4000
30 July-9 August 1979	—	100s seen most days	> 4000
10-21 August 1980	—	lot of birds seen most days in first week, very few seen in second week	1000s
2-13 August 1981	250 in 30 min (2 Aug) 130 in 30 min (9 Aug)	seen throughout period but thickest on 2, 7 and 9 Aug. Numbers seemed to be dropping towards end of period.	1000s
18-30 July 1982	330 in 60 min (a.m.) (29 July) 900 in 15 min (p.m.) (29 July)	seen throughout period but numbers low until 29 July when ~2000 seen, mostly in afternoon.	> 2000
4-17 August 1984	96 between 09h20-14h00 (5 Aug) 436 between 08h30-13h00 (6 Aug) 459 between 10h00-13h30 (7 Aug) 53 between 16h30-17h15 (7 Aug) 130 between 08h30-13h00 (8 Aug) 14 between 09h00-13h00 (9 Aug) 1013 between 11h00-13h00 (10 Aug) 60 between 09h30-14h00 (14 Aug)	numbers consistently low after 10 Aug.	~2400
4-16 August 1985	—	1000s seen on 6 Aug, 100s seen on 7 and 8 Aug, numbers low other days, especially towards end of period.	> 3000

Table 1 (cont.)

Date	Actual Counts	Comments	Estimated Numbers Seen
3-15 August 1986	201 between 10h00-13h00 (3 Aug)	several 100 seen in raft on water with Wedge-tailed Shearwaters on 15 Aug not counted.	~3400
	1 between 13h30-17h30 (4 Aug)		
	83 between 09h30-13h00 (5 Aug)		
	51 between 11h00-17h00 (6 Aug)		
	0 between 09h30-12h30 (7 Aug)		
	0 between 09h30-12h00 (8 Aug)		
	2 between 09h30-13h30 (9 Aug)		
	0 between 09h00-13h30 (10 Aug)		
	0 between 09h30-13h30 (11 Aug)		
	14 between 10h00-12h00 (12 Aug)		
	0 between 11h30-1500 (13 Aug)		
	2474 between 10h30-12h30 (14 Aug)		
	564 between 07h30-09h30 (15 Aug)		
	10 between 10h00-12h00 (23 Aug)		
	32 between 11h00-14h00 (24 Aug)		
	50 between 09h30-11h30 (25 Aug)		
23 August- 3 September 1987	116 between 10h00-14h00 (27 Aug)	consistently low numbers seen irrespective of wind conditions, on 27 Aug fed with Wedge-tailed Shearwaters on fish shoals, on 29 Aug and 1 and 3 Sep some birds flew north	~430
	19 between 10h00-13h00 (28 Aug)		
	21 between 09h00-12h00 (29 Aug)		
	71 between 09h30-14h30 (30 Aug)		
	41 between 09h30-13h00 (31 Aug)		
	30 between 09h30-12h30 (1 Sep)		
	2 between 07h30-08h30 (2 Sep)		
	34 between 09h00-12h00 (3 Sep)		

fortnight. Since the migration appears to last a month, it is reasonable to assume at least 30% of the population flew past outside the fortnight, giving a minimum estimate of 40,000 migrating birds.

Harrow (1976) has sight records for all months of the year in New Zealand but very few Hutton's Shearwaters have been recovered there during winter on beach patrols (Imber & Crockett 1970, annual reports in *Notornis*). This suggests that most Hutton's Shearwaters (including breeding birds) migrate. Additional support for this hypothesis will be given if, as seems quite likely, the estimated minimum size of the migrating population ( $\geq 40,000$  birds) is of similar magnitude to the total population. No direct estimates of total population size are available yet (J. Warham pers. comm.) but the largest aggregation of Hutton's Shearwaters that has been recorded in the breeding area is 20,000 birds (Harrow 1976) and records of beach-wrecked specimens suggest Hutton's Shearwaters are an order of magnitude less common than the closely related Fluttering Shearwater (*Puffinus gavia*) (see annual beach-patrol reports in *Notornis*).

Wedge-tailed Shearwaters slightly outnumber Hutton's Shearwaters at Ningaloo as they migrate south although no counts were made. They also appear to have a slightly later migration since numbers of Wedge-tailed Shearwaters remain high into September. Serventy *et al.*'s (1971) comment that Wedge-tailed Shearwaters are sedentary is misleading. The Western Australian populations migrate during winter (Storr 1964) like those in eastern Australia (Rogers 1975). The probable wintering area is off the north-western coast (see Storr 1980). Some birds may linger in the Pilbara region (north of Ningaloo) because Storr (1984) reports sightings in June and July but the Pilbara population is also migratory. The occasional birds seen on the mid-western coast in winter (Abbott 1979) are presumably southern birds that have delayed migration.

Carter (1904) recorded large numbers of Wedge-tailed Shearwaters (and, he claimed, other species) around Ningaloo, inshore as well as offshore, in November-December and mentioned that they flew all through the night. Whether these were foraging birds from breeding colonies, or whether they were there for some other purpose is unclear, but no known breeding colonies existed in the area. They are still common at this time of the year; Keeling & Parker (1986) saw large numbers in November 1986. Carter (1904) did not record seeing Wedge-tailed Shearwaters in August, however.

Another difference between our observations and those of Carter is that he found Fairy Terns rare; nowadays it is a common species and very large concentrations occur on Frazer Island at Ningaloo (Serventy & Whittell 1976).

To summarize our observations in relation to the proposed Marine Park, the Ningaloo area contains rich and interesting seabird and shorebird assemblages. Two features contribute to this. Firstly, the continental shelf is so narrow around Ningaloo (approximately 8 km) that there is a much greater concentration of pelagic seabirds than normally occurs close to land. Secondly, Ningaloo is at the junction of two seabird distribution zones so that both tropical and temperate species are found there. The occurrence of both Australasian Gannets and Brown Boobies is an example of this. Further study



should reveal that the area supports sizeable summer, as well as smaller winter, populations of waders. The abundant birdlife, combined with the extensive coral reefs and splendid fish fauna, attest to Ningaloo Marine Park being an important natural area.

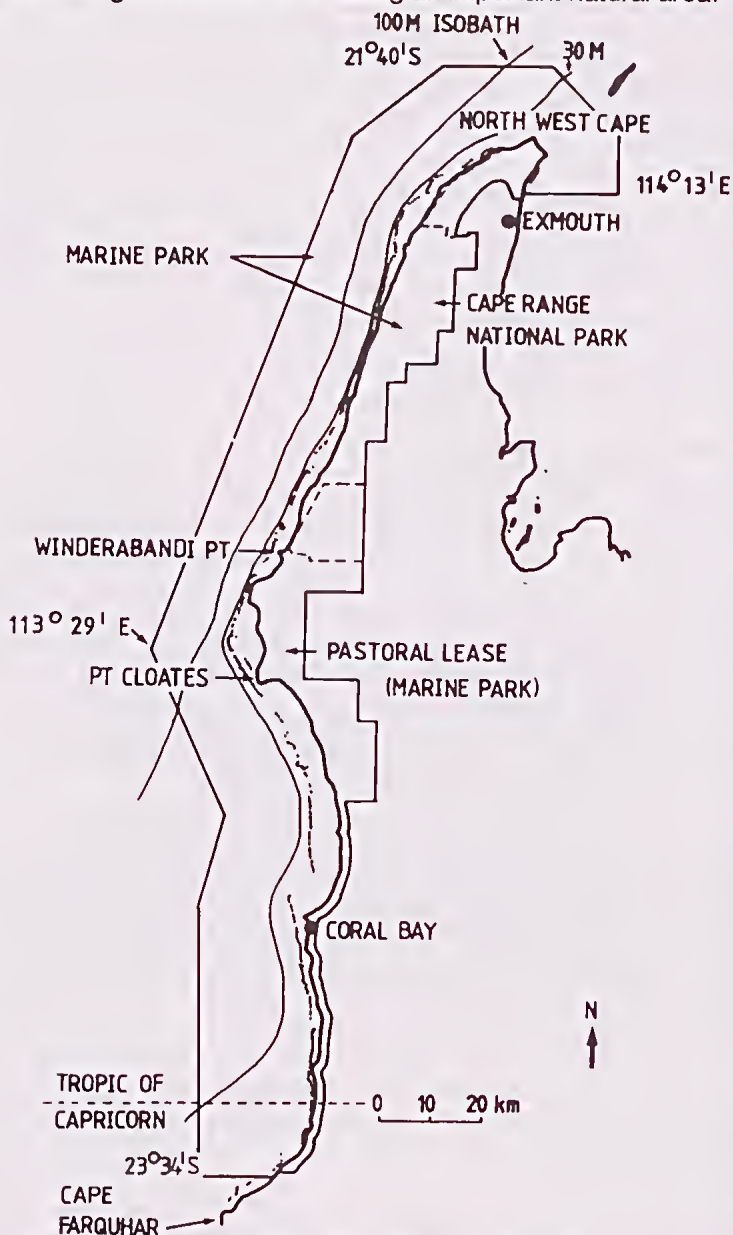


Figure 1. Proposed Ningaloo Marine Park (from May *et al.* 1983).

#### ACKNOWLEDGEMENTS

We wish to thank Drs J. Warham and R.G. Powlesland for information about Hutton's Shearwater in New Zealand and K.D. Morris for information about Wedge-tailed Shearwaters. P.J. Curry, R.E. Johnstone, and Dr G.M. Storr commented on a draft of the manuscript.



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## APPENDIX

Additional seabirds and shorebirds recorded at Ningaloo or in the surrounding North-West Cape area by other authors.

### Seabird species

Great winged Petrel  
*Pterodroma macroptera*<sup>4</sup>

Soft-plumaged Petrel  
*Pterodroma mollis*<sup>2</sup>

Flesh-footed Shearwater  
*Puffinus carneipes*<sup>4</sup>

Little Shearwater  
*Puffinus assimilis*<sup>4</sup>

White-faced Storm-Petrel  
*Pelagodroma marina*<sup>1 3</sup>

Australian Pelican  
*Pelecanus conspicillatus*<sup>1 3 4</sup>

Little Black Cormorant  
*Phalacrocorax sulcirostris*<sup>3 4</sup>

Red-tailed Tropicbird  
*Phaethon rubricauda*<sup>1 3</sup>

Pacific Gull  
*Larus pacificus*<sup>3</sup>

Gull-billed Tern  
*Gelochelidon nilotica*<sup>1 3</sup>

Common Tern  
*Sterna hirundo*<sup>3 4</sup>

Roseate Tern  
*Sterna dougallii*<sup>1 4</sup>

Sooty Tern  
*Sterna fuscata*<sup>3</sup>

Common Noddy  
*Anous stolidus*<sup>1</sup>

### Shorebird species

White-faced Heron  
*Ardea novaehollandiae*<sup>3 4</sup>

Striated Heron  
*Butorides striatus*<sup>3 4</sup>

Lesser Golden Plover  
*Pluvialis dominica*<sup>1 4</sup>

Mongolian Plover  
*Charadrius mongolus*<sup>1 3</sup>

Oriental Plover  
*Charadrius veredus*<sup>1 3</sup>

Eastern Curlew  
*Numenius  
madagascariensis*<sup>1 3 4</sup>

Little Curlew  
*Numenius minutus*<sup>4</sup>

Greenshank  
*Tringa nebularia*<sup>3 4</sup>

Red Knot  
*Calidris canutus*<sup>3 4</sup>

Great Knot  
*Calidris tenuirostris*<sup>4</sup>

Curlew Sandpiper  
*Calidris ferruginea*<sup>4</sup>

<sup>1</sup> Carter (1904)

<sup>2</sup> Johnstone (1980)

<sup>3</sup> Dept of Conservation & Land Management (1985)

<sup>4</sup> Keeling & Parker (1986)

## A REDSHANK AT PEEL INLET AND A REVIEW OF ITS STATUS IN WESTERN AUSTRALIA

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### SUMMARY

Sightings of a Redshank *Tringa totanus* at Peel Inlet, Western Australia in July 1985 are described and recent records of the Redshank in Western Australia are summarised.

### THE SIGHTINGS AT PEEL INLET

On 10 July 1985, Blyth saw an unusual wader in the northern part